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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,733	01/27/2004	Katrina A. Mikhaylich	LAM1P108D	3470

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EXAMINER

MARKOFF, ALEXANDER

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 07/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/766,733

Applicant(s)

MIKHAYLICH ET AL.

Examiner

Alexander Markoff

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/15/06 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 12-13, 15 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Bankes et al (US Patent No 3,970,471).

Bankes et al teach a method as claimed. See entire document, especially Figures 1 and 2 and the related description. In the method the wafers are cleaned by sequential application of water, two sequential brushes with chemical solution and second application of water. The brushes scrub opposite sides of the wafer. Water is applied through nozzles 40 and 41. The cleaning is done while the wafer is in the brush box. The brushes are maintained at a substantial constant supply of the cleaning solution.

With respect to claims 12-13, 15 and 17-19: it is noted that parts 14, 15, 25, 20, 33 and 28 meet the limitation of rollers.

As to the claims 18 and 19 requiring rinsing until specific pH: it is noted that rinsing with water would provide pH of water, which is 7.

As to claim 17 requiring a specific rinsing time: it is noted that the speed of rotation of wafers disclosed in column 5, lines 45-51 would provide rinsing time in the claimed range.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bankes et al.

Bankes et al, as it has been shown above, teaches a method as claimed except for the specific flow rates of water.

Bankes et al, however, teaches application of water under pressure sufficient to prevent sticking the wafers to the plates due to the surface tension.

It would have been obvious to an ordinary artisan at the time the invention was made to find an optimum pressure and related flow rate of water from sets of nozzles 40 and 41 by routine experimentation in order to achieve the function disclosed by Bankes et al.

8. Claims 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bankes et al in view of WO 97/13590.

Bankes et al teaches a method as claimed except for recitation of the use of HF for cleaning.

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WO 97/13590 teaches that the use of HF for cleaning wafers with brushes was conventional. See at least pages 9-11. The WO document recommends treatment with HF in order to remove oxide layer naturally formed on the surface of the wafer.

It would have been obvious to an ordinary artisan at the time the invention was made to incorporate cleaning with HF solution in method of Bankes et al in order to have the wafers cleaned and the oxide removed because the WO document recommends such.

Response to Arguments

9. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

The applicants amended the claims and argue that the previously applied rejections are not proper for the amended claims.

The amendment claims were examined on the merits. The previously applied rejections are withdrawn. The new rejections are presented in the instant Office action.


Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 5,351,360, 5,375,291, 6,059,891, and 5,868,866 are cited to show that treatment wafers with brushes and rinsing the wafers in the same workstation with the brushes removed from the contact with the wafers was known in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 571-272-1304. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alexander Markoff
Primary Examiner
Art Unit 1746

AM